CLAIMS

1. A tuner amplifier system, comprising:

a tuner amplifier input that receives a tuner amplifier input signal;

a first amplifier comprising an input and an output, the input of the first amplifier being coupled to the tuner amplifier input;

a second amplifier comprising an input and an output, the input of the second amplifier being coupled to the tuner amplifier input; and

a switch adapted to couple one of the first amplifier output and the second amplifier output to an output of the tuner amplifier.

2. The tuner amplifier system of claim 1, wherein the switch comprises a first input coupled to the output of the first amplifier, a second input coupled to the output of the second amplifier, and an output, wherein the switch is adapted to couple one of the first and second inputs of the switch to the output of the switch.

3. The tuner amplifier system of claim 1, wherein the switch comprises a plurality of switches.

4. The tuner amplifier system of claim 1, wherein the switch is incorporated within at least one of the first and second amplifiers.

5. The tuner amplifier system of claim 1, wherein the switch is further adapted to couple one of the first amplifier output and the second amplifier output to the output of the tuner amplifier in response to a detected power.

6. The tuner amplifier system of claim 5, wherein the variable gain amplifier further comprises at least one transconductance amplifier having a transconductance that is responsive to an indication of the detected power.

7. The tuner amplifier system of claim 6, wherein a transconductance of each of the at least one transconductance amplifier has a transconductance that is independently variable.

8. The tuner amplifier system of claim 5, wherein the switch is further adapted to couple one of the first amplifier output and the second amplifier output to the output of the tuner amplifier in response to a detected power of a signal at the output of the tuner amplifier.

9. The tuner amplifier system of claim 8, wherein the signal at the output of the tuner amplifier is a broadband signal.

10. The tuner amplifier system of claim 8, wherein the switch is adapted to couple the first amplifier output to the output of the tuner amplifier in response to detecting a power level that is less than a first value and couple the second amplifier output to the output of the tuner amplifier in response to detecting a power level that is greater than a second value, wherein the first value is larger than the second value.

11. The tuner amplifier system of claim 8, wherein the switch is adapted to couple the first amplifier output or the second amplifier output to the output of the tuner amplifier in response to a hysteresis function.

12. The tuner amplifier system of claim 1, wherein the switch is further adapted to couple the first amplifier output to the output of the tuner amplifier when a power of the tuner amplifier input signal is within a first range and couple the second amplifier output to the output of the tuner amplifier when the power of the tuner amplifier input signal is within a second range.

13. The tuner amplifier system of claim 12, wherein the switch is adapted to couple the first amplifier output to the output of the tuner amplifier when the power of the tuner amplifier input signal is between approximately -85 dBm and a selected value.

14. The tuner amplifier system of claim 12, wherein the switch is adapted to couple the second amplifier output to the output of the tuner amplifier when the power of the tuner amplifier input signal is between the selected value and approximately +9 dBm.

15. The tuner amplifier system of claim 1, wherein the first amplifier is a fixed gain amplifier and the second amplifier is a variable gain amplifier.

16. The tuner amplifier system of claim 15, wherein an impedance network of the first amplifier comprises active elements.

17. The tuner amplifier system of claim 15, wherein noise figure of the first amplifier equal to or less than approximately 5 dB.

18. The tuner amplifier system of claim 15, wherein an impedance network of the second amplifier includes substantially no active elements.

19. The tuner amplifier system of claim 15, wherein a gain of the first amplifier is approximately equal to a maximum gain of the second amplifier.

20. The tuner amplifier system of claim 15, further comprising:

a power detector coupled to the output of the tuner amplifier; and

a gain controller coupled to the second amplifier to control the gain of the second amplifier in response to an indication of power generated by the power detector.

21. The tuner amplifier system of claim 20, wherein the power detector generates an indication of peak power.

22. The tuner amplifier system of claim 20, wherein the power detector generates an indication of RMS power.

23. The tuner amplifier system of claim 20, wherein the switch is adapted to couple the first amplifier output to the output of the tuner amplifier in response to the indication of power being less than a first value and couple the second amplifier output to the output of the tuner amplifier in response the indication of power being greater than a second value, wherein the first value is greater than the second value.

24. The tuner amplifier system of claim 20, further comprising:

an image filter coupled between the output of the tuner amplifier and the power detector.

25. The tuner amplifier system of claim 1, wherein the tuner amplifier input receives a television signal.

26. The tuner amplifier system of claim 1, wherein the first amplifier comprises a differential input and a differential output.

27. The tuner amplifier system of claim 1, wherein the second amplifier comprises a differential input and a differential output.

28. A method of amplifying a tuner input signal, comprising acts of:

detecting a power of the tuner input signal;

selecting a tuner amplifier to amplify the tuner input signal based on the power of the tuner input signal; and

amplifying the tuner input signal using the selected amplifier.

29. The method of claim 28, wherein the act of selecting comprises selecting a tuner amplifier from a fixed gain amplifier and a variable gain amplifier.

30. The method of claim 29, wherein the act of selecting comprises selecting the fixed gain amplifier if the power of the tuner input signal is below a first determined value and selecting the variable gain amplifier if the power of the tuner input signal is at or above a second determined value.

31. The method of claim 30, wherein the first determined value is different from the second determined value.

32. The method of claim 31, wherein the first determined value is greater than the second determined value.

33. The method of claim 29, wherein the act of selecting comprises selecting the fixed gain amplifier if the power of the tuner input signal is between approximately -85 dBm and a selected value.

34. The method of claim 29, wherein the act of selecting comprises selecting the variable gain amplifier if the power of the tuner input signal is between a selected value and approximately +9 dBm.

35. The method of claim 29, wherein the act of selecting comprises selecting the fixed gain amplifier if a power level of the tuner input signal is below a predetermined threshold.

36. The method of claim 29, wherein the act of selecting comprises selecting the variable gain amplifier if a power level of the tuner input signal is a above a predetermined threshold.

37. The method of claim 29, wherein the act of selecting comprises selecting the variable gain amplifier, and wherein the method further comprises an act of:

adjusting a gain of the variable gain amplifier based on the power of the tuner input signal.

38. The method of claim 29, wherein the act of selecting comprises selecting the variable gain amplifier, and wherein the method further comprises an act of:

adjusting a gain of the variable gain amplifier to a level between approximately -15 dB and 18 dB.

39. The method of claim 28, wherein:

the act of detecting includes detecting a power of a television input signal;

the act of selecting includes selecting a tuner amplifier to amplify the television input signal based on the power of the television input signal; and

the act of amplifying includes amplifying the television input signal using the selected amplifier.

40. A tuner amplifier system, comprising:

a tuner amplifier input that receives a tuner amplifier input signal;

a tuner amplifier output that transmits a tuner amplifier output signal;

a first amplifier comprising an input and an output, the input of the first amplifier being coupled to the amplifier input; and

a second amplifier comprising an input and an output, the input of the second amplifier being coupled to the amplifier input;

wherein the tuner amplifier output signal comprises one of a signal from the first amplifier and a signal from the second amplifier at a given time.

41. The tuner amplifier system of claim 40, wherein the first amplifier comprises a differential input and a differential output.

42. The tuner amplifier system of claim 40, wherein the second amplifier comprises a differential input and a differential output.

43. The tuner amplifier system of claim 40, wherein the tuner amplifier input receives a television signal.